WASHINGTON STATE DEPARTMENT OF ECOLOGY
EASTERN REGIONAL OFFICE
4601 NORTH MONROE
SPOKANE, WASHINGTON 99205-1295

FINAL STATEMENT OF BASIS
FOR
AIR OPERATING PERMIT NUMBER 07AQ-E240
BOISE BUILDING SOLUTIONS MANUFACTURING, LLC
KETTLE FALLS LUMBER MILL
KETTLE FALLS, WASHINGT

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LIST OF ABBREVIATIONS{ TC "LIST OF ABBREVIATIONS" \l 1 }

AOP	Air Operating Permit
BACT	Best Available Control Technology
BTU	British Thermal Units
^{o}C	Degrees Celsius
CAM	Compliance Assurance Monitoring
CFR	Code of Federal Regulations
CO	Carbon Monoxide
COMS	Continuous Opacity Monitoring System
dscf	Dry Standard Cubic Foot
dscf/m	Dry Standard Cubic Foot per minute
Ecology	Washington State Department of Ecology
E.I.T.	Engineer in Training
EPA	United States Environmental Protection Agency
^{o}F	Degrees Fahrenheit
FCAA	Federal Clean Air Act
ft^3	Cubic foot
gr/dscf	Grains per dry standard cubic foot
hr	Hour
lb	Pound
MMBtu	Million British Thermal Units
MRRR	Monitoring, Recordkeeping, and Reporting Requirement
NOC	Notice of Construction
NO_x	Oxides of Nitrogen
NSPS	New Source Performance Standard
O_2	Oxygen
O&M	Operation & Maintenance
P.E.	Professional Engineer
PM	Particulate Matter
PM-10	Particulate Matter with aerodynamic diameter <10 micrometers
ppm	Parts per million
PSD	Prevention of Significant Deterioration
RACT	Reasonably Available Control Technology
RCW	Revised Code of Washington
RM	EPA Reference Method from 40 CFR Part 60, Appendix A
scfm	Standard Cubic Feet per Minute
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
T	Temperature
TAP	Toxic Air Pollutant
TPD	Tons Per Day
TPY	Tons Per Year
TSP	Total Suspended Particulate
VOC	Volatile Organic Compound
WAC	Washington Administrative Code
w%	Percentage by Weight
yr	Year

Selected Emission Units – Annual Potential To Emit in Tons Per Year (tpy)

Emission Units	PM-10 (tpy)	CO (tpy)	NO_X (tpy)	SO_2 (tpy)	VOC (tpy)
Hog Fuel Boiler[1]	3.5 > 240*	134	58	0. 2	5.0
Lumber Drying Kilns[2]	7.0	-	-	-	88.5
Planer Baghouse	1.3	-	-	-	-

* Indicates pre-controlled emissions from sources to which Compliance Assurance Monitoring is applicable.

1.0 Introduction

This document sets forth the legal and factual basis for the permit conditions in a FINAL 1st Revision to an AOP issued by the State of Washington Department of Ecology for a lumber mill located in Kettle Falls, Washington. This document is called a "statement of basis" and is required by Washington State regulations [chapter 173-401 WAC]. A statement of basis does not contain enforceable permit conditions. Enforceable permit conditions are contained in the AOP itself.

2.0 Facility Identifying Information

2.1 Company Name ----------Boise Building Solutions Manufacturing, LLC

2.2 Facility Name----------Kettle Falls Lumber Mill

2.3 Unified Business Identification Number ----------WA602-429-647.

2.4 Facility Address ---------- 610 West 3rd Avenue, Kettle Falls Washington 99141

2.5 Facility Contact ----------Jennifer Wasley, Region Environmental Engineer

2.6 Facility Contact Phone Number ---------- (509) 738-3219

3.0 Basis for Title V Applicability

Boise Building Solutions Manufacturing, LLC (Boise), Kettle Falls Lumber Mill, is subject to Title V, Air Operating Permit Regulations, due to the potential to emit carbon monoxide (CO) in excess of 100 tons per year. WAC 173-401-200(17)(b) identifies any source that directly emits or has the potential to emit one hundred tpy or more of any air pollutant as a major source. Major sources are required to obtain Title V permits under 173-401-300(1)(a)(i).

4.0 Attainment Classification

The facility is located in an area that is classified as attainment for all criteria pollutants as of November 2007.

5.0 Title V Facility Timeline

5.1 December 8, 1994 ---------- Source became subject to Title V Program

5.2 November 22, 1996----------Original AOP is issued (Order No. DE 96AQ-E137)

5.3 November 22, 2001---------- Original AOP expired

[1] PM, CO, NOx, Based on December 2004 stack test. SO2 and VOC based on May 2001 stack test.

[2] AOP application

5.4 September 13, 2001 ----------AOP Renewal application is deemed complete

5.5 December 10, 2002 ---------- Final Renewal AOP Issued (Order No. 02AQER-5096)

5.6 January 1, 2003---------- Order No. 02AQER-5096 Effective Date

5.7 June 23, 2005---------- Final Order No. 02AQER-5096 1st Revision Issued & Effective

5.8 January 1, 2008---------- Order No. 02AQER-5096 1st Revision Expiration Date

5.9 December 26, 2007 ----------Final Order No. 07AQ-E240 issued

6.0 Facility Description

6.1 The Kettle Falls Lumber Mill is located at 610 West 3rd, Kettle Falls, Washington, Stevens County. The facility includes process areas, a log yard, maintenance facilities, offices, and hog fuel storage. The mill processes raw logs into dried finished lumber before shipping. The mill also receives green lumber for storage or for processing in the dry kilns and planing mill. Wood residue from the sawmill and planer mill is both used onsite as fuel and shipped offsite by truck and rail. The site contains facilities for repair and maintenance of log and lumber handling equipment as well as mobile and other miscellaneous equipment and vehicles used in mill operations.

6.1.1 *Facility Process Description*[1] – Logs are delivered to the mill by truck and transferred to a log yard for temporary storage. Logs pass through a debarker before entering the sawmill. Bark is removed from the logs and drops to a conveyor leading to a hog. The hogged bark is either stored in the hogged fuel storage pile (S1) or pneumatically conveyed to either the large fuel silo (TP2) for use in the hog fuel boiler (B1), or to truck bins (TP3) for sale. Green lumber from the sawmill is transported by forklift to storage areas and/or to the dry kilns. Green lumber is also delivered to the site by truck and transferred by forklift to green lumber storage areas and/or to the kilns. Dried lumber from the kilns and/or green lumber from storage areas is transferred by forklift to the planing mill. Scrap portions of green logs from the sawmill are chipped and transferred to either a rail car or a truck bin for sale. Planer shavings are transferred to either a truck bin or a fuel silo. The planer shavings from the truck bin are hauled offsite by truck. In the sawmill, the bark and other scrap portions of the logs (minus that made into chips) are sent to a hog where they are processed into smaller sized materials. This hogged wood waste is conveyed to either a fuel storage silo for the hog fuel boiler or to truck bins. Boiler ash collected from the multiclone and electrostatic precipitator (ESP) is conditioned with water and conveyed to a concrete bunker. Ash from the bunker is then transported to the county landfill.

6.1.2 *Sawmill* Sawmill - The sawmill is located on the south side of the property and is the only operation that utilizes raw llogs. Logs are delivered to the site, sorted by species and size, then stacked in log decks on the west side of the property. Logs are delivered to the debarker infeed using a loader. Bark is removed from the logs and drops to a conveyor leading to a hog. The hogged bark is either stored in the hogged fuel storage pile (S1) or pneumatically conveyed to either the large fuel silo (TP2), for use in the hog fuel boiler (B1), or to truck bins (TP3). Truck bins can load the fuel into trucks (TP3) for sale. The debarked logs continue along a conveyor to the bucking operation where a cutoff saw cuts the log into processing lengths. The sawdust from the cutoff saws falls into the bark conveyor leading to the waste wood hog. The debarked and bucked logs are either conveyed to a stock pile bin or enter the sawmill building and are conveyed to the

[1] Emission points identified by numbers (TP2, S1, B1..) are shown on the site plan in Appendix C.

headrig. The headrig generally produces two pieces of lumber and a block. The block is conveyed to a resaw where it is further cut into lumber. The sawdust from the headrig drops to the conveyer leading to either the hog fuel silo (TP2) or the hog fuel pile (S1), while the larger scrap pieces of the log are conveyed to a chipper that generates small chips. The green wood chips are then conveyed to either TP4 or TP10 for sale. The sawdust generated by the resaw is collected with a suction vent routed to Cyclone 4 (C4). The collected sawdust drops to a conveyor and is transferred to the conveyor feeding the waste wood hog. The lumber from the headrig and resaw is conveyed to the edger where the edges of the lumber are cut such that the lumber is a desired width. The sawdust from the edger is also conveyed to the conveyor feeding the waste wood chipper. The larger scrap pieces of wood are conveyed to the chipper then on to TP4 or TP10 for sale. The edged lumber is then conveyed to the trimmer where it is cut to a desired length. The sawdust from the trimmer is conveyed to C4 and then to S1 or TP2. The larger scrap pieces of wood, the trimmed ends, are conveyed to the chipper then on to TP4 or TP10 for sale. At this point, the green lumber is conveyed to the sorting and stacking building on the west side of the sawmill. Here the lumber is stacked in bundles with stickers (small sticks of lumber) separating each layer of lumber to allow air flow and uniform drying. The bundles of green lumber are then transferred to the dry kilns or the planing mill for further processing.

6.1.3 *Hog Fuel Boiler* – The hog fuel boiler consists of a Wellons 3-cell furnace and a Nebraska boiler. The boiler provides steam to both the dry kilns and the sawmill. At the sawmill, the steam is used for space heat in the mill. Hog fuel (the majority of which is hogged bark and sawdust from the sawmill – the facility also burns small amounts of sawdust that has been used to clean up small oil spills onsite) is fed into the fuel cells by conveyor from the large and small fuel silos. The nameplate rating of the boiler is 50,000 lbs steam/hr, but the boiler is capable of operating at higher steaming rates. The emissions from the boiler are controlled by a multiclone followed by an ESP and are vented from the stack designated B1. The ash collected by the multiclone and ESP is conveyed to a 10 cubic yard ash hopper. The ash is conditioned with water and deposited into a concrete ash bunker (S2) located south of the boiler building. Ash is then removed for disposal at the county landfill.

6.1.4 *Lumber Drying* – The dry kilns, located on the west side of the facility, use steam heated air to dry green lumber. The steam, provided by the hog fuel boiler (B1), passes through heating coils inside the kilns. Blowers pull cool dry air into the kilns and past the coils raising the air temperature in the kilns to approximately 150-200 ^{o}F, circulating the warm air through the lumber. The resulting warm moist air is then partially vented to the atmosphere. There are six lumber kilns at the Kettle Falls Lumber Facility. Kilns 1, 2 an 6 are single track kilns and kilns 3, 4, and 5 are double track.[1] After the lumber is dried, it is transferred to either temporary storage or directly to the planing mill.

6.1.5 *Planer Mill* – There are two planers at the planing mill located on the north side of the facility. Each mill receives kiln dried, air dried, and green lumber from an unstacker. If the lumber is split or damaged, the damaged section is removed and transported to a hog. The lumber is automatically aligned and runs through one of the planers. The planers surface rough lumber by shaving off a thin layer from the surface leaving a smooth face.

[1] A track is similar in meaning to a railroad track. A single track kiln thus has one set of tracks. A double track kiln has two sets of tracks.

The material shaved off is referred to as "planer shavings." The planed lumber is manually marked according to grade. An optimizer reads the mark and the ends are trimmed to dimension. Trimming produces both sawdust from the trimsaw and small pieces of lumber from the ends which are relayed to the hogs. The planer shavings from planer 1, trimsaw dust, and hogged wood waste are collected with a suction vent routed to Cyclone 1 (C1). The planer shavings from planer 2 are collected with a suction vent routed to Cyclone 2 (C2). The exhaust air from C1 is routed to a baghouse (BH1). The planer shavings and trimsaw dust collected by C2 and C1 bottoms is pneumatically conveyed to Cyclone 3 (C3) which then transfers the material to either a truck bin (TP7) or to the small fuel silo (TP1). The finished lumber is transferred from the planing mill, packaged, and stored for shipping.

6.1.6 *Maintenance* – Some of the maintenance activities taking place at the Kettle Falls Lumber facility include an automotive maintenance shop including a gasoline (T1) and diesel dispensing tank and facility maintenance - groundskeeping, carpentry, painting, etc.

6.1.7 *Miscellaneous* – Miscellaneous sources at the facility encompass a range of units (i.e., a log yard, facility roads, and process water pond) and activities (i.e., fuel storage and finished lumber storage and shipping).

7.0 Facility Emission Units/Processes

7.1 Facility Wide (Section 2.1 in AOP)

7.1.1 Point source emission units specifically subject to the requirements in Section 2.1 of the AOP include the following.

7.1.1.1 Cyclone 2 – Planer #2 shavings cyclone

7.1.1.2 Cyclone 3 – Planer shavings from C1 and C2

7.1.1.3 Cyclone 4 – Wood waste from sawmill

7.2 Hog Fuel Boiler (Section 2.2 in AOP)

7.3 Lumber Drying Kilns #1 through #5 (Section 2.3 in AOP)

7.4 Lumber Drying Kiln #6 (Section 2.4 in AOP)

7.5 Planer Baghouse (Section 2.5 in AOP)

8.0 Insignificant Emission Units and Activities

8.1 The following insignificant emission units were proposed by the permittee in the Title V Renewal Application materials submitted to Ecology and have been found by Ecology to meet the requirements outlined in WAC 173-401-532 as categorically insignificant.

8.1.1 Storage tanks, reservoirs and pumping and handling equipment of any size, limited to soaps, lubricants, hydraulic fluid, vegetable oil, grease, animal fat, aqueous salt solutions or other materials and processes using appropriate lids and covers where there is no generation of objectionable odor or airborne particulate matter (WAC 173-401-532(4)) – Four (4) such tanks have been found to qualify as insignificant.

8.1.2 Vents from rooms, buildings and enclosures that contain permitted emissions units or activities from which local ventilation, controls and separate exhaust are provided (WAC 173-401-532(9))

8.2 The following insignificant emission units were proposed by the permittee in the Title V Renewal Application materials submitted to Ecology and have been found by Ecology to meet the requirements outlined in WAC 173-401-533 as insignificant on the basis of size or production rate.

8.2.1 Two natural gas space heaters (WAC 173-401-533(2)(e), Combustion sources less than five million BTU/hr exclusively using natural gas, butane, propane, or LPG).

8.2.2 Two 10,000 gallon capacity diesel storage tanks (WAC 173-401-533(2)(c), Operation, loading and unloading of VOC storage tanks (including gasoline storage tanks), ten thousand gallons capacity or less, with lids or other appropriate closure, vapor pressure not greater than 80 mm Hg at 21ºC).

8.2.3 One 6,000 gallon capacity gasoline storage tank (WAC 173-401-533(2)(c), Operation, loading and unloading of VOC storage tanks (including gasoline storage tanks), ten thousand gallons capacity or less, with lids or other appropriate closure, vapor pressure not greater than 80 mm Hg at 21ºC).

8.3 The following emission units were proposed by the permittee as outlined in WAC 173-401-530(4) as insignificant on the basis of actual emissions.

8.3.1 The permittee used an AP-42 equation to propose that the emission units listed below are insignificant and thus not subject to monitoring, recordkeeping and reporting requirements contained within the AOP. Ecology has determined that while emissions *as calculated by the AP-42 equation* do fall below the limits cited in WAC 173-401-530(4), the permittee is still responsible to maintain the equipment associated with the emission units to ensure that they function properly. Without proper maintenance and repair, the emissions from these sources could easily exceed the insignificance levels.

8.3.1.1 Small Fuel Silo Vents (TP1)

8.3.1.2 Large Fuel Silo Vents (TP2)

8.3.1.3 Vents on Truck Bins 2 and 3 (TP3)

8.3.1.4 Vents on Truck Bin 4 (TP4)

8.3.1.5 Truck Bin 1 Loadout (TP5)

8.3.1.6 Truck Bin 2 Loadout (TP6)

8.3.1.7 Truck Bin 3 Loadout (TP7)

8.3.1.8 Truck Bin 4 Loadout (TP8)

8.3.1.9 Truck Bin 5 Loadout (TP9)

8.3.1.10 Rail Car Loadout (TP10)

8.3.1.11 Fuel Storage Pile (S1)

8.3.1.12 Boiler Ash Storage Pile (S2)

9.0 Comments and Corresponding Responses

9.1 Comments received during the public comment period and EPA review period are on file at Ecology's Eastern Region Office in Spokane, along with Ecology's response to the comments.

10.0 Applicable and Inapplicable Requirements Determinations/Explanations.

10.1 Iinitial or one-time NOC requirements that have not been included in the AOP as ongoing applicable requirements.

10.1.1 Order No. DE 94AQ-E169 Second Amendment, Approval Condition 4, O&M manuals for all equipment related to lumber dry kiln #6 that has the potential to the atmosphere shall be developed. O&M manual development shall be completed within 90 days of receipt of all equipment, materials, and manufacturers manuals, and a copy sent to Ecology for approval.
The O&M manual is located in the Source Testing and O&M Manual Report file, at Ecology's Eastern Regional Office in Spokane, Washington. The manual was received January 17, 1995.

10.1.2 Order No. DE 94AQ-E169 Second Amendment, Approval Condition 5.1, Opacity testing shall be conducted by the Department of Ecology during the initial compliance inspection.
An internal Ecology memo dated October 20, 1995 states that the initial compliance inspection took place on October 19, 1995. While no mention is made of performance of EPA RM 9 to test opacity, the memo states that "The dry kilns looked fine, with no opacity detected after the steam dissipation". The correspondence is located in the facility general file at Ecology's Eastern Regional Office in Spokane, Washington.

10.1.3 Order No. DE 94AQ-E169 Second Amendment, Approval Condition 6.5, The permittee must notify Ecology at least ten (10) days prior to startup of lumber dry kiln #6.
Correspondence informing Ecology of the startup of dry kiln #6 is located in the facility general file at Ecology's Eastern Regional Office in Spokane, Washington. The correspondence was received by Ecology on May 8, 1997

10.1.4 Order No. DE 94AQ-E169 Second Amendment, Approval Condition 6.3, Order No. DE 94AQ-E169 becomes void if construction of the project is not commenced for 18 months, or if it is discontinued for 18 months.
Correspondence informing Ecology of the startup of dry kiln #6 is located in the facility general file at Ecology's Eastern Regional Office in Spokane, Washington. Documentation regarding the startup of the kiln indicates that construction of the kiln was completed at this time. The correspondence was received by Ecology on May 8, 1997.

10.1.5 Order No. DE 93AQ-E111, Approval Condition 6, O&M manuals for all equipment related to the operation of the planer baghouse that has the potential to affect emissions to the atmosphere shall be developed. O&M manual development shall be completed within 90 days of issuance of this order and a copy sent to Ecology for approval.
Correspondence dated 6/8/93, 7/13/93, and 9/3/93 indicates that the O&M manual was developed in accordance with the Order and inspected during an Ecology compliance inspection. The correspondence is located in the facility general file at Ecology's Eastern Regional Office in Spokane, Washington.

10.1.6 Order No. DE 93AQ-E111, Approval Condition 8.4, If construction of the project is not commenced within eighteen (18) months after receipt of the Order approving the Notice of Construction, the approval shall become void.
Correspondence dated 9/8/93 from Ecology to the permittee regarding a compliance inspection that took place on 8/23/93 documents that the baghouse was in operation on that date. This indicates that construction of the baghouse was commenced and finished within an acceptable time period. This correspondence is located in the facility general file at Ecology's Eastern Regional Office in Spokane, Washington.

10.1.7 Order No. DE 93AQ-E111, Approval Condition 8.6, The permittee must notify Ecology in writing at least seven (7) days prior to construction, and seven (7) days prior to startup of the new baghouse.
Correspondence dated 3/24/93 was located from the permittee notifying Ecology that the baghouse had been put on order and the site clearing had begun. Correspondence dated 7/13/93 was located from the permittee notifying Ecology that the baghouse would start up on 7/26/93. This correspondence is located in the facility general file at Ecology's Eastern Regional Office in Spokane, Washington.

10.1.8 Order No. 04AQ-E115 1st Amendment, Approval Condition 1.4, The COMS shall be manufactured in accordance with the design and performance specifications and test procedures in 40 CFR 60, Appendix B, "Performance Specification 1" (PS-1).
Manufacturer's information submitted to Ecology during the permit development stage states that the COMS has been manufactured to meet all EPA requirements.

10.1.9 Order No. 04AQ-E115, Approval Condition 1.5, The permittee shall follow the installation guidelines and conduct a series of performance tests after installation of the COMS per PS-1.
During facility site visits on September 29 and 30, 2004, Ecology learned that the permittee initiated the 168-hour extended operational test beginning on September 28, 2004. The permittee hired a contractor to conduct the field performance audit and provided Ecology notification on December 13, 2004 stating that the audit had been completed.

10.1.10 Order No. 04AQ-E115, Approval Condition 3.1, Initial performance testing on the hog fuel boiler shall be conducted within ninety (90) days after startup of the boiler following installation of the ESP.
Notification that boiler startup occurred September 16, 2004 was provided to Ecology in a letter received October 5, 2004. Based on this date, initial performance testing must be conducted before December 12, 2004. Testing occurred on December 8, 2004.

10.1.11 Order No. 04AQ-E115 1st Amendment, Approval Condition 5, Notification of the date that the O&M manual for the dry ESP shall be submitted along with a copy of a flow diagram for the boiler-ESP system.

Notification that the O&M manual was completed March 10, 2005, as well as a flow diagram as required, was received March 17, 2005.

10.1.12 Order No. 04AQ-E115, Approval Condition 5.1, The permittee shall provide Ecology with notification of the date of boiler startup following ESP installation.
Notification that boiler startup occurred September 16, 2004 was provided to Ecology in a letter received October 5, 2004.

10.1.13 Order No. 04AQ-E115, Approval Condition 7.2, The permittee shall submit to Ecology copies of any air-load voltage and current curves or other baseline information developed during installation and startup of the ESP.
Copies of the baseline data were received by Ecology via letter on October 5, 2004.

10.1.14 Order No. 04AQ-E115, Approval Condition 8.1, The permittee shall make all reasonable efforts to reduce fugitive dust production during construction and installation of the ESP.
Construction of the ESP occurred during late spring and early summer 2004. No complaints regarding fugitive dust were received by the permittee or Ecology during this period.

10.1.15 Order No. 04AQ-E115, Approval Condition 8.3, The approval Order becomes void if construction of the ESP does not commence within eighteen (18) months after receipt of the Order.
The order was issued May 12, 2004, and construction of the ESP occurred over approximately the next three (3) months. Startup of the ESP occurred September 16, 2004. Therefore the eighteen (18) month timeframe was met.

10.1.16 Order No. 04AQ-E115, Approval Condition 8.10, The approval order is not effective until payment of all applicable issuance fees to Ecology.
The Ecology Eastern Regional Office received notification from the Ecology Fiscal Office via email on February 11, 2004 that payment for the permitting fee was received on February 10, 2004.

10.2 The following NOC requirements clarified miscellaneous issues with regard to the applicable emission unit and were not approval conditions. These NOC requirements therefore have not been included in the AOP as ongoing applicable requirements.

10.2.1 Order No. DE 94AQ-E169 Second Amendment – Approval Condition 3, Emission Control Monitors. *This approval condition stated that no emission control monitors were required as part of this Order.*

10.2.2 Order No. DE 93AQ-E111 – Approval Condition 4, Fugitive Dust. *This approval condition stated that fugitive dust problems are not associated with baghouse operation.*

10.3 The permittee listed the following requirements as applicable or applicable if triggered. These regulations require no action on the part of the source, and have not been included in the AOP as applicable requirements.

10.3.1 40 CFR 70.2, PSD or NSR Pre-Construction Permit Conditions.

10.3.2 WAC 173-400-040(1)(c), Exceptions to Visible Emission Limits.

10.3.3 40 CFR 52.21(b-w), Prevention of Significant Deterioration of Air Quality.

10.3.4 40 CFR 50,National Ambient Air Quality Standards.

10.3.5 WAC 173-401-705, Requirement for a permit

10.4 Inapplicable requirements proposed by the permittee.

10.4.1 Section 4 of the AOP lists requirements that are not applicable to the source at the time of issuance but may become applicable due to an invoking event. The permit shield applies to conditions listed in Section 4 of the AOP.

10.4.2 The permittee listed the following requirements as inapplicable, and requested extension of the permit shield. These requirements are specifically identified in the permit, and are subject to the permit shield under WAC 173-401-640(1). No extension of the permit shield is required.

10.4.3 WAC 173-400-045 Control Technology Fees.

10.4.4 WAC 173-400-115 Standards of Performance for New Sources.

10.4.5 WAC 173-400-141 Prevention of Significant Deterioration.

10.4.6 WAC 173-460 Controls for New Sources for Toxic Air Pollutants.

10.4.7 RCW 70.94.610 Burning Used Oil in Land-Based Facilities.

10.4.8 WAC 173-400-107 Excess Emissions.

10.4.9 WAC 173-400-110 New Source Review.

10.4.10 WAC 173-400-113 Requirements for New Sources in Attainment or Unclassifiable Areas.

10.4.11 WAC 173-400-114 Requirements for Replacement or Substantial Alteration of Emission Control Technology At an Existing Stationary Source.

10.4.12 WAC 173-400-171 Public Involvement.

10.4.13 WAC 173-435-040 Source Emission Reduction Plans (SERP).

10.4.14 WAC 173-435-050(2) SERP Action Procedures.

10.4.15 40 CFR 64 Compliance Assurance Monitoring.

10.4.16 WAC 173-425 Open Burning. RCW 70.94.970 CFC Requirements

10.4.17 40 CFR 60, New Source Performance Standards

10.5 The following requirements were listed as applicable when triggered and/or inapplicable by the source, but have been found to be generally or specifically applicable by Ecology.

10.5.1	40 CFR 82	Protection of Stratospheric Ozone – Subparts E (Product Labeling) and F (Recycling and Emissions Reduction) apply generally nationwide.
10.5.2	RCW 70.94.650	Open Burning Permits – The open burning regulations apply generally, at all times, throughout the state, and so constitute ongoing applicable requirements that apply to the permittee.
10.5.3	RCW 70.94.743	Outdoor Burning Prohibited Areas – The open burning regulations apply generally, at all times, throughout the state, and so constitute ongoing applicable requirements that apply to the permittee.

10.5.4 RCW 70.94.775 Outdoor Burning Fire Prohibition – The open burning regulations apply generally, at all times, throughout the state, and so constitute ongoing applicable requirements that apply to the permittee.

10.5.5 Order No. DE 93AQ-E111 Installation of the baghouse on the planer exhaust – The permittee remains required to have the baghouse installed on the planer exhaust.

10.6 Many of the regulations listed as inapplicable by the permittee are inapplicable because they contain no requirements for action by the permittee, or are inherently irrelevant to the source. Including all of these in Section 4 of the AOP would make it difficult for the public, regulators or the permittee to identify requirements about which there might be a reasonable question of applicability. We have listed requirements for which there might be a question of applicability below, along with a brief explanation of inapplicability for each.

10.6.1 chapter 173-490 WAC Emission Standards and Controls for Sources Emitting VOC's - The permittee is not located in an ozone nonattainment area or included in the WAC 173-490-030 listing.

10.6.2 chapter 173-475 WAC Ambient Air Quality Standards for Carbon Monoxide, Ozone, and Nitrogen Dioxide - The permittee is not currently required to take any action under this regulation.

10.6.3 chapter 173-474 WAC Ambient Air Quality Standards for Sulfur Oxides - The permittee is not currently required to take any action under this regulation.

10.6.4 chapter 173-470 WAC Ambient Air Quality Standards for Particulate Matter - The permittee is not currently required to take any action under this regulation.

10.6.5 chapter 173-434 WAC Solid Waste Incineration – The permittee is not in this source category.

10.6.6 WAC 173-400-151 Retrofit Requirements for Visibility – The source does not meet the definition of "existing stationary facility"..

10.6.7 WAC 173-400-115 New Source Performance Standards – This regulation does not include any ongoing specific requirements for the permittee.

10.6.8 WAC 173-400-112 Requirements for New Sources in Non-Attainment Areas – As of permit issuance, the permittee is located in an area classified attainment for all criteria pollutants.

10.6.9 WAC 173-400-050(2) Emission Standards for Incinerators – The permittee does not operate an incinerator.

10.6.10 WAC 173-400-070(1), (3), (4), (5), (6), (7), (8), (9)Emission standards for certain source categories – Facility does not operate sources in these specific categories.

11.0 Monitoring, Recordkeeping, and Reporting Requirement (MRRR) Sufficiency Explanations – The following section provides brief discussions regarding the reasoning behind the MRRR's included as part of the AOP. The criterion is that each MRRR must be sufficient to assure compliance with each associated applicable requirement.

Gapfilling: if an applicable requirement does not include monitoring, recordkeeping and reporting requirements sufficient to assure compliance, the AOP will establish additional requirements. This action is known as gapfilling. [1] Monitoring, Recordkeeping and Reporting Requirements that include gapfilling are be identified by a note following the MRRR description.

11.1 MRRR **1M** – This requirement specifies the monitoring, recordkeeping, and reporting that is to be performed with regard to the facility in general. The MRRR includes five (5) sections which specify actions to be taken regarding specific permit conditions. Each of these sections are discussed below.

11.1.1 Section 1M 1) of the AOP – This MRRR was designed to provide sufficient response to complaints regarding facility emissions affecting landowners neighboring or in the affected vicinity of the facility. Timeframes were chosen to provide the permittee with adequate time to respond appropriately as well as ensuring that complaints are addressed.

11.1.2 Section 1M 2) of the AOP – This MRRR has been designed to require periodic walk-around surveys as the most simple and direct method to determine the presence of visible emissions. These surveys, in conjunction with a good faith effort on the part of the permittee to operate in accordance with the conditions of the AOP, are considered sufficient monitoring.

11.1.3 Section 1M 3) a) of the AOP – This MRRR is used for conditions that require the source to maintain a certain status quo (e.g., O&M manual accessible to employees in operation of the equipment; maintaining replacement parts for routine repairs to monitoring equipment). To assure compliance with these provisions, the permittee is required to periodically review facility operations to ensure continued compliance with each requirement. Since such a change is unlikely, an annual inspection was deemed adequate.

11.1.4 Section 1M 3) b) of the AOP – This MRRR has been designed to require periodic reviews of Operation and Maintenance manuals, etc. in order to evaluate whether current operational practices are being conducted in a manner consistent with the information upon which permitting has been based. While the initial review under this 1st revision of the AOP is required to be comprehensive, subsequent reviews are only required to evaluate any changes that have occurred during the time period since the previous review. The recordkeeping and reporting required provide reasonable assurance that practices which are not consistent with the submitted information will be documented, enabling the permittee to address them in a timely manner.

11.1.5 Section 1M 3) c) of the AOP – This MRRR has been designed based on the condition that all associated equipment is maintained in proper working condition. Using emission factors in conjunction with operational parameters is a feasible method of estimating emissions from an emission unit for which performance testing may not be feasible.

[1] Note that, in addition to the MRRR, the source must consider *all* credible evidence when determining their compliance status.

11.2 MRRR **2M** – A monthly visible emission observation is considered to be sufficient monitoring for general process units with regard to the opacity standard. The specifics of the monitoring described have been designed to provide relatively frequent evaluation of each potential emission point, while requiring visible emission testing using EPA RM 9 only when visible emissions are observed and cannot be eliminated within twenty-four (24) hours. The monitoring was designed with the goal of providing the permittee with sufficient opportunity to respond to upsets appropriately while at the same time avoiding significant, prolonged environmental degradation. With regard to the use of visible emission evaluation surveys as a monitoring technique related to particulate matter standards, the method was chosen due to the fact that most of the general process units to which this is applicable are not large enough to justify performance testing using EPA RM's 5 and/or 202. Visible emission observations provide a convenient alternative method to source testing for the purpose of evaluating the performance of such units.

11.3 MRRR **3M** – This monitoring has been specified to rely on periodic source testing in order to gain a reasonable assurance of compliance with the various pollutant limits that apply to the hog fuel boiler. Source testing is the most reliable method for determining emissions, and due to the emission levels and applicable limits, testing is deemed reasonable.

11.4 MRRR **4M** – Because the MRRR enables direct comparison between records and the operational limits, it is considered to be sufficient.

11.5 MRRR **5M** – The monitoring described is specifically applicable to the hog fuel boiler for the purposes of Compliance Assurance Monitoring (CAM). Compliance Assurance Monitoring must be designed to provide reasonable assurance of compliance with emission limitations or standards for the pollutant specific emission unit. In order for a pollutant specific emission unit (PSEU) to be subject to CAM, the three (3) conditions described below must be met. The manner in which they are met by the hog fuel boiler is discussed below.

11.5.1 The PSEU must be subject to an emission limit for the applicable pollutant. In the case of the hog fuel boiler, the PSEU is subject to multiple emission limits specific to particulate matter. These applicable requirements are included in Section 2.2 Hog Fuel Boiler of the AOP.

11.5.2 The PSEU must utilize air pollution control equipment to reduce emissions of the applicable pollutant to a level that meets the established emission limit(s). In the case of the hog fuel boiler, the particulate emissions of the PSEU are controlled by a multiple cyclone followed by an ESP.

11.5.3 The PSEU must have pre-controlled emissions of the specific pollutant that meet or exceed the major source thresholds established in WAC 173-401-200(17). In the case of the hog fuel boiler, the pre-controlled emissions of particulate matter have been calculated to be > 100 tons per year (tpy). This exceeds the major source threshold of 100 tpy established in WAC 173-401-200(17).

The proposed CAM monitoring has been designed to rely on electrostatic precipitator (ESP) secondary voltage in conjunction with multiclone differential pressure. Through published information and consultation with ESP manufacturers in the past, secondary voltage was identified as the primary indicator of ESP particulate matter removal efficiency. The particular trigger limits were set based on previous CAM experience on similar boiler/multiclone/ESP systems including data obtained during source tests, ESP manufacturer advice and engineering judgment.

11.6 MRRR **6M** – This MRRR establishes the minimum recordkeeping information necessary for reasonable assurance of compliance with the requirement to keep the O&M manual for the ESP updated.

11.7 MRRR **7M** – Because the MRRR enables direct comparison between records and the operational limits, it is considered to be sufficient.

MRRR **8M** – This MRRR establishes the minimum recordkeeping information necessary for reasonable assurance of compliance with the requirement to keep the O&M manual for the lumber drying kiln updated.

11.8 MRRR **9M** – Because the MRRR enables direct comparison between records and the operational limits, it is considered to be sufficient. The method prescribed to calculate the amount of material collected by the planer shavings and dust collection system was identified as very similar if not identical to the method used to estimate this value during the original NOC permit application process. Due to the fact that very little of the material (proportionally) that is collected by the system is not sold as planer shavings, this method gives results that are reasonably accurate.

11.9 MRRR **10M** – This MRRR establishes the minimum recordkeeping information necessary for reasonable assurance of compliance with the requirement to keep the O&M manual for the planer baghouse updated.

12.0 Streamlining Explanations

12.1 WAC 173-400-070(2)(a) – Opacity from the hog fuel boiler – All hog fuel boilers in Washington are subject to the state-wide opacity standard imposed by WAC 173-400-040(1), which states *"No person shall cause or permit the emission for more than three minutes, in any one hour, of an air contaminant from any emissions unit which at the emission point, or within a reasonable distance of the emission point, exceeds twenty percent opacity."* WAC 173-400-070(2)(a) allows an exemption from this standard for hog fuel boilers by stating that opacity may exceed 20% for fifteen (15) consecutive minutes once every eight (8) hours to allow for soot blowing and grate cleaning. The exemption has not been included in the AOP due to the fact that Order No. 04AQ-E115 includes a condition (Approval Condition 2.2) which states *"Opacity from the ESP outlet shall not exceed 10% averaged over a six-minute period as measured by the COMS and EPA reference test method 9."* Were the opacity from the boiler to exceed 20% for as little as three (3) consecutive minutes, it would not be in compliance with the NOC limit. Since the NOC limit is clearly more stringent, it is appropriate to apply streamlining to the WAC opacity exemption.

12.2 WAC 173-400-050(1), (3) – Emissions of particulate matter from the hog fuel boiler – This section of the WAC applies to the hog fuel boiler by limiting emissions of particulate matter to 0.2 grains per dry standard cubic foot corrected to seven percent oxygen. This applicable requirement has not been included in the AOP due to the fact that Order No. 04AQ-E115 includes a condition (Approval Condition 2.1) that limits particulate matter emissions from the boiler to 0.011 grains per dry standard cubic foot corrected to seven percent oxygen. Since the condition included in the NOC order is clearly more stringent and is expressed in the same units as WAC 173-400-050(1), (3), it is appropriate to apply streamlining to this requirement.

13.0 Clarifications and Interpretations

13.1 Section 1.2 - Enforceability – Unless designated otherwise, all Air Operating Permit terms and conditions are enforceable by the EPA and citizens under the Federal Clean Air Act. Some conditions (identified by (S)) are enforceable only by the state (Ecology). State-only enforceable conditions are not included in the currently-approved version of the Washington State

Implementation Plan (SIP). If a regulation is cited with no reference to enforceability, it is federally enforceable. For example—AOP standard condition 1.6.6 is followed by the reference *[WAC 173-400-105(2),(4), 8/20/93, 1/10/2005 (S)]*. This indicates that the 8/20/93 version of WAC 173-400-105 is included in the current SIP, and is federally enforceable. The 1/10/2005 version of WAC 173-400-105 is enforceable only by the state.

13.2 Recordkeeping retention time – Two of the NOC permits that apply to the permittee (Order No. DE 94AQ-E169 Second Amendment and Order No. DE 93AQ-E111) include conditions which require applicable recordkeeping/reporting to be maintained for a period of less than five years. However, Standard Condition 1.27.3 of the AOP requires that the permittee retain all records or information of this type for a period of at least five (5) years. Due to the fact that the five (5) year requirement included in the standard condition is more stringent, this is the requirement that has been included in the appropriate MRRR's. However, the conditions included in the NOC permits still apply to the permittee and therefore have been included in the AOP under the column labeled Condition, Emission Standard, or Work Practice. The specific NOC conditions that this applies to are listed below.

13.2.1 Order No. DE 94AQ-E169 Second Amendment – Approval Condition(s) 1 and 4

13.2.2 Order No. DE 93AQ-E111 – Approval Condition(s) 1 and 6

13.3 WAC 173-401-620(1) – Acid Rain Provisions. The permittee is not an affected source as specified in the referenced section of the WAC. Due to this, no permit conditions relating to the acid rain provisions of the FCAA have been included in the AOP.

13.4 WAC 173-401-510(2)(h)(i) – Compliance Plan. At the time of permit issuance, no ongoing applicable requirements have been identified with which the permittee is not currently in compliance. However, this does not preclude Ecology from taking future action on past non-compliance.

13.5 Chapter 173-425 WAC, Open Burning – The requirements restricting open burning in the State of Washington apply to the source, and therefore Chapter 173-425 has been included as an applicable requirement under Section 2.1 Facility Wide Requirements. Additionally, both Order No. DE 94AQ-E169 Second Amendment and Order No. DE 93AQ-E111 include permit conditions that prohibit open burning on the facility site with the exception of special conditions as outlined in Chapter 173-425 WAC.

13.6 Condition 2.1.1 of AOP, Visible Emissions – WAC 173-400-040(1), (1)(a), and (1)(b) restrict visible emissions from all sources of air emissions throughout the source to 20% opacity for no longer than three (3) minutes in any one hour. While it is clear from the time periods contained within the regulation that Ecology Method 9A ("Source Test Manual – Procedures for Compliance Testing", State of Washington, Department of Ecology, 07/12/90) was the test method intended to be used to verify compliance, this permit has specified EPA Reference Method 9 as the test method utilized as part of MRRR **2M**. Ecology has determined that reasonable assurance of compliance with the regulation may be obtained by conducting RM 9 upon observance of visible emissions, as specified within **2M**.

13.7 WAC 173-433, Emission Standards for Solid Fuel Burning Devices— A literal reading of WAC RCW 70.94.453(5) could lead to the conclusion that all solid fuel burning devices of any size, fall under the definition of a solid fuel burning device: *"any device for burning wood, coal, or any other nongaseous and non-liquid fuel, including a wood stove and a fireplace."* However, the policy statement of RCW 70.94.450 clearly indicates that the concern of the Washington State Legislature was emissions from wood stoves. Based on this interpretation of RCW 70.94.450, Ecology believes

that WAC 173-433 does not apply to large industrial boilers. WAC 173-433 would be applicable if a wood stove, fireplace or similar device were present at the source.

13.8 Condition 2.4.3 of AOP, 40 CFR 60 Notification and Recordkeeping Requirements as they apply to Lumber Drying Kiln #6 – Order No. DE 94AQ-E169 Second Amendment included a condition requiring the permittee to comply with the referenced requirements included in 40 CFR 60.7. However, the permittee is not currently subject to any New Source Performance Standard (NSPS), and therefore should not technically be subject to the general requirements imposed by 40 CFR 60 Subpart A. However, since the requirements have been included in the Notice of Construction Order, they must be included in the Air Operating Permit.

13.9 Standard Condition 1.13.4, Emission Inventory – This standard condition includes the requirement to submit "segmented stack and fugitive emissions" for specified pollutants. The term "segmented" refers to a situation where two or more emission units (boilers, for example) are vented to the atmosphere through a common stack. Each emission unit connected to the common stack would be a "segment" In this case, segmented emissions data would provide emissions of each pollutant from each emission unit. Emissions estimates should be made using the best available data.

13.10 MRRR 7M and 8M of AOP – The correction for oxygen content as prescribed by 7M and 8M should be performed according to the method outlined in 40 CFR 60 Appendix A, Reference Method 19.

13.11 Emission Factor Hierarchy – Emission factors used to estimate emissions under the AOP shall be derived from the most recent source testing. If test-derived factors are unavailable, the most recent emission factor published by USEPA shall be used. In the event that the most recent published data provides a range of emission factors, the calculation shall be performed using the most conservative factor within the provided range. Use of less conservative emission factors may be used only upon written approval by Ecology. In the event that USEPA emission factors are either inappropriate or unavailable, the permittee shall propose an alternative emission factor (or emission estimation method) that may be used upon written approval by Ecology. The emission factor proposal may be submitted prior to or as part of the annual emission inventory.

13.12 Compliance Certification – Section 173-401-630(5) of the WAC stipulates that each AOP contain a requirement that compliance certifications include identification of each term or condition of the permit as well as the method(s) used to determine the compliance status with respect to each term or condition. Ecology has structured its AOP's such that sections 1 (Standard Conditions) and 2 (Applicable Requirements) contain the terms and conditions of the permit, while section 3 (Monitoring, Recordkeeping, and Reporting Requirements or MRRR) contains the method(s) to be used by the permittee to determine the compliance status with respect to each term or condition. Based on this format, it is appropriate for the permittee to certify compliance status with each term or condition contained within sections 1 and 2 of the AOP while identifying the MRRR contained within section 3 as the method(s) used for determining compliance status where appropriate.

13.13 Testing Column in Section 2 AOP Tables – The purpose of the testing column is to specify the test method used to develop the applicable emission limit or standard. This specification is necessary in order to clearly identify the test procedure to be used in the event that Ecology requires testing. Also, emission limits cannot be considered fully enforceable if the test method used to develop the standard is not specified within the permit. Specifying the test method does not preclude the use of alternative testing methods within monitoring, recordkeeping, and reporting requirements within the AOP as a method to establish a reasonable assurance of compliance.

14.0 Appendices

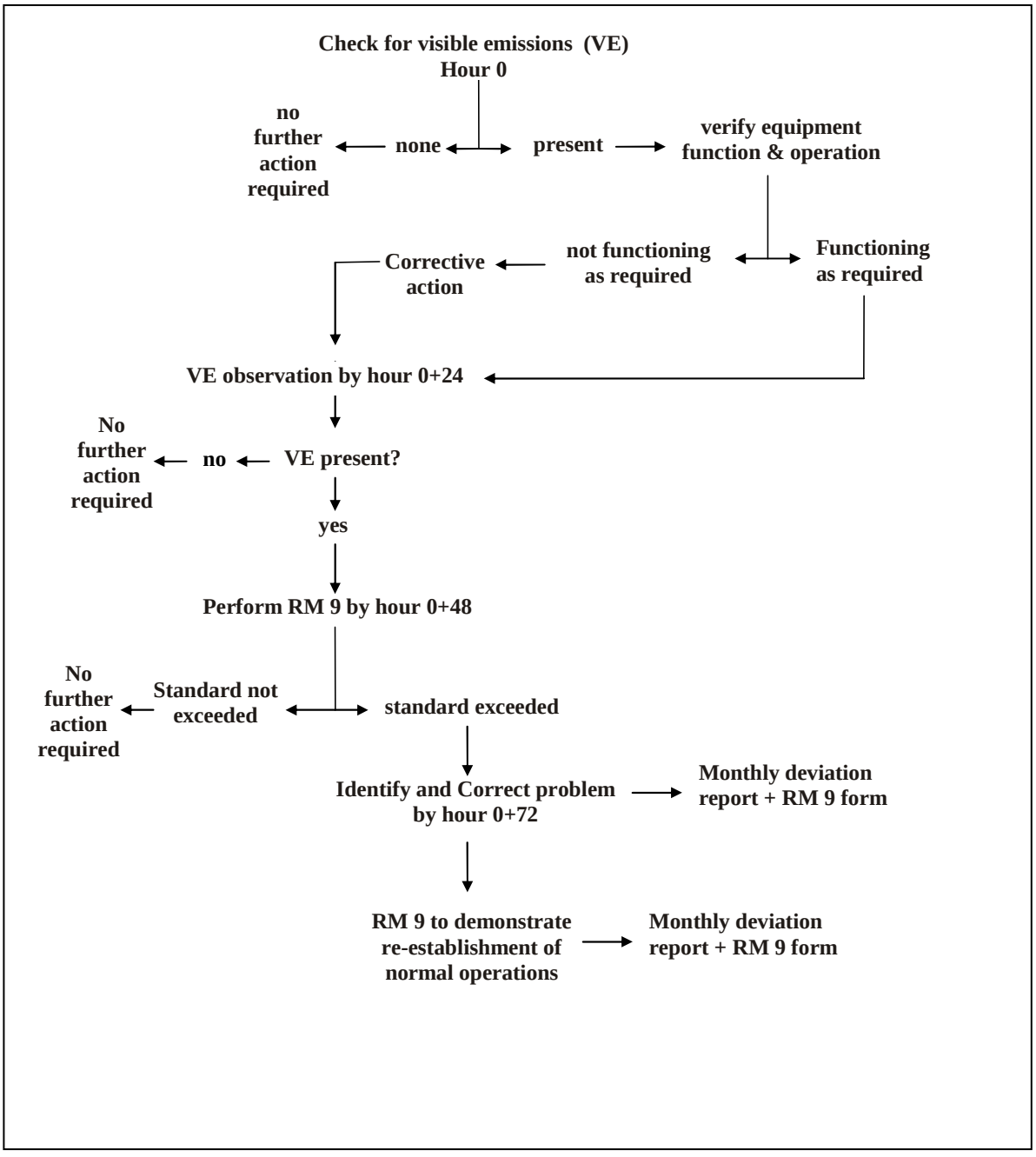
Appendix A – Visible Emission Observation Flowchart (MRRR 2M)

Appendix B - Area Map

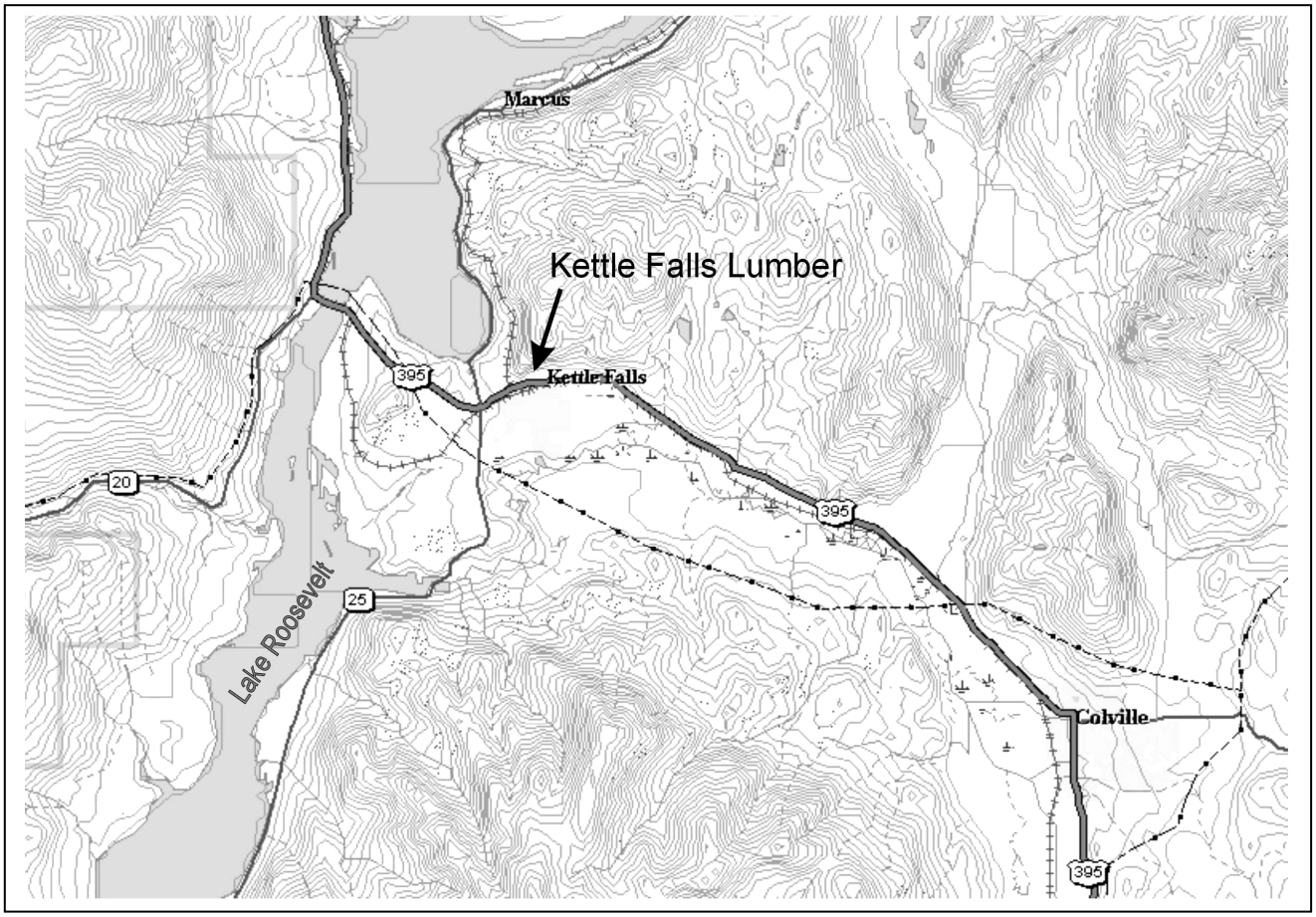
Appendix C – Site Plan

Appendix D – Process Flow Diagram

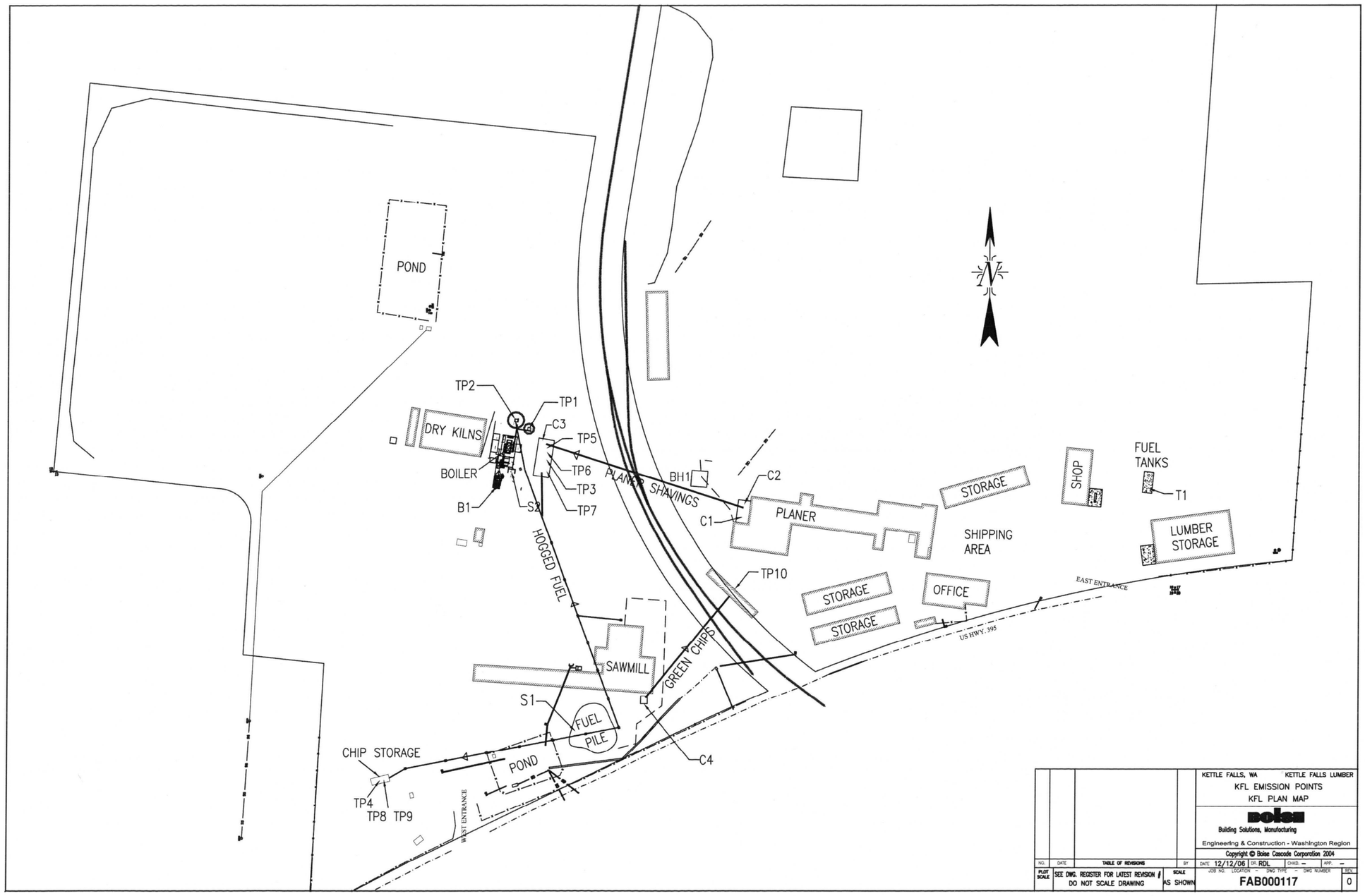
Appendix A – Visible Emission Observation Flowchart (MRRR 2M)



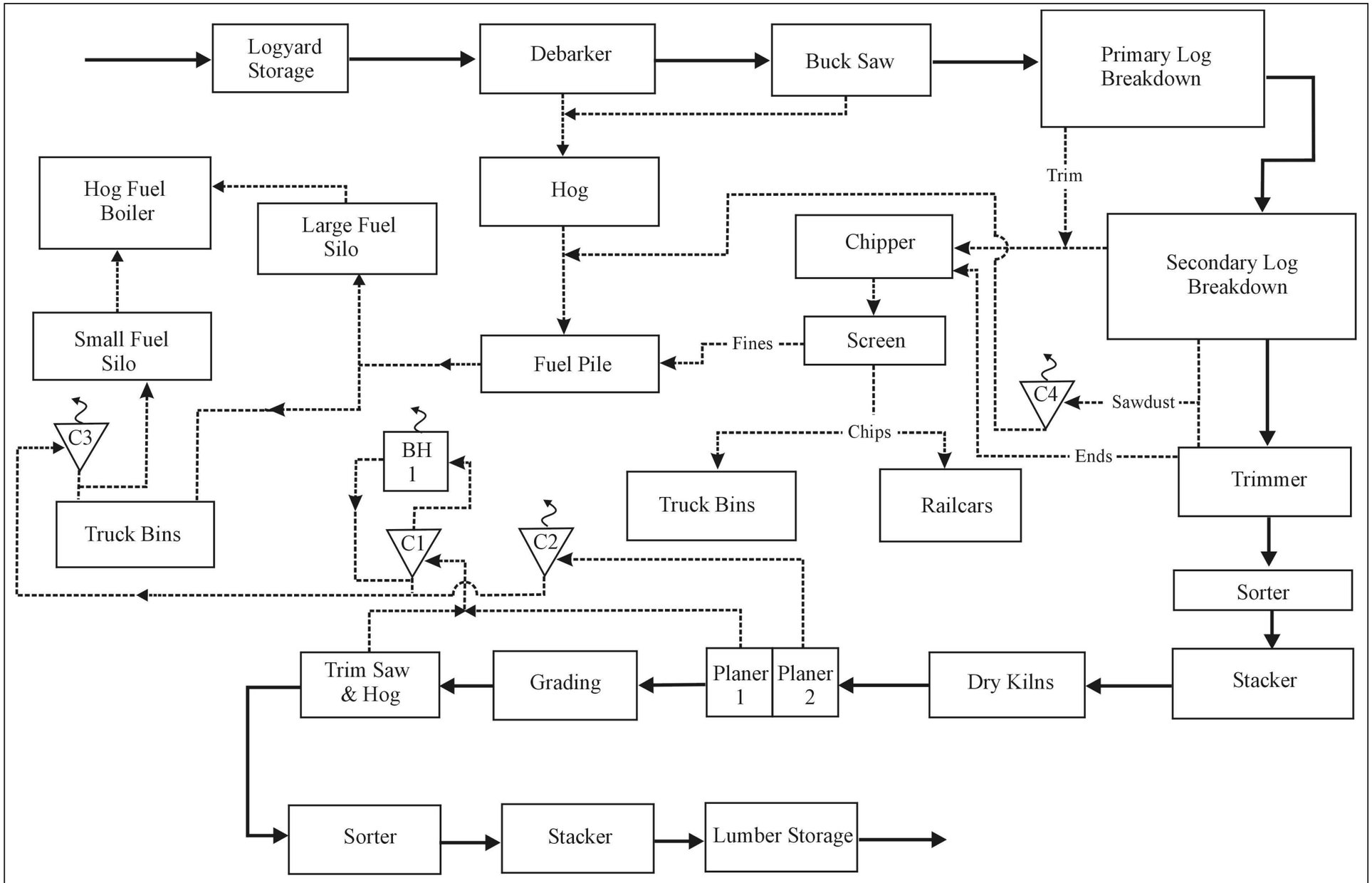
Appendix B – Area Map



Appendix C – Site plan



Appendix D – Process Flow Diagram



Kettle Falls Lumber process flow diagram